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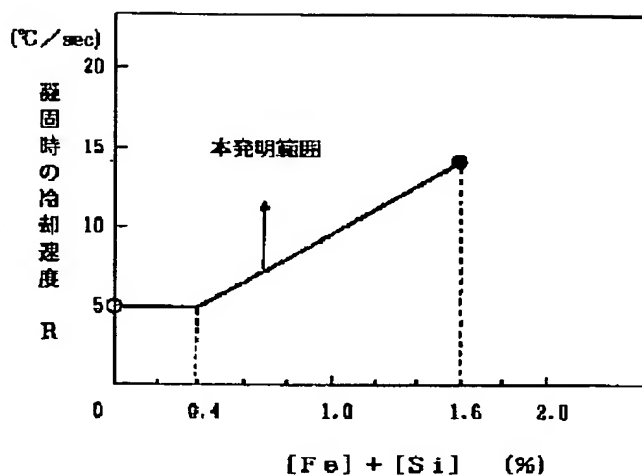
APPLICATION DATE : 17-03-94  
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APPLICANT : KOBE STEEL LTD;

INVENTOR : MORIMOTO HIROYUKI;

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TITLE : AL-ZN-MG-CU ALLOY EXCELLENT IN TOUGHNESS AND ITS PRODUCTION



ABSTRACT : PURPOSE: To produce an Al-Zn-Mg-Cu alloy excellent in toughness, contg. specified amounts of Zn, Mg, Cu, Fe, Si, Cr or the like, by executing hot rolling or the like after continuous casting and specifying the cooling rate at the time of solidification.

CONSTITUTION: An Al alloy contg., by weight, 1 to 7% Zn, 0.5 to 3.0% Mg, 0.2 to 3.0% Cu,  $0 < \text{Fe} \leq 0.8$  and  $0 < \text{Si} \leq 0.8$ , contg. one or more kinds among 0.05 to 0.3% Cr, 0.05 to 0.4% Mn, 0.05 to 0.3% Zr and 0.03 to 0.3% Ti, and the balance Al is used. This alloy is subjected to hot rolling after continuous casting or subjected to hot rolling and cold rolling and is furthermore subjected to heat treatment to regulate the maximum length of insoluble compound grains contg. Fe and Si to  $\leq 2\mu\text{m}$  and the volume fractional rate to  $\leq 2.0\%$ . For regulation in such manner, the continuous casting is executed under the conditions in which the cooling rate R ( $^{\circ}\text{C}/\text{sec}$ ) at the time of solidification satisfies  $R \geq 5$  and  $R \geq 7.5 ([\text{Fe}] + [\text{Si}]) + 2$ , where [Fe] and [Si] denote the contents (%) of Fe and Si in the Al alloy.

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